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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/772,297

02/06/2004

Kentaro Fujibayashi

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09/11/2006

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EXAMINER

CHANG, SUNRAY

ART UNIT

PAPER NUMBER

2121

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/772,297

Applicant(s)

FUJIBAYASHI ET AL.

Examiner

Sunray Chang

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20060406-1&2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in responsive to the paper filed on June 6th, 2006.

Claims 1 – 6 are presented for examination.

Claims 1 – 6 are rejected.

Independent claim 6 is newly cited.

Claim Rejections - 35 USC § 112

2. Claims 1 – 3 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure, which goes to make up the device must be clearly and positively specified.

The term, “be assumed to” in claims, is not clearly and positively specified. Correction is suggested, to specify “a virtual axis which is moving at a speed settled depending on a given function” instead, and has been interpreted the same hereinafter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 1 – 6 are rejected under 35 U.S.C. 103(a)** as being unpatentable over Weinhofer et al. (U.S. P.G. Pub.No. 2003/0233906) and referred to as **Weinhofer** hereinafter).

Regarding Claims 1 – 3 and 6,

Weinhofer discloses:

- A position control device (see pg 1, col 1, para 0004, lines 1-7) for controlling a controlled axis in accordance with a command movement, comprising:
- means for calculating the position of the controlled axis (see Fig 1, element 30-Position Cam) on the basis of the command movement for the controlled axis; (see pg 7, col 2, para 0070, lines 4-7)
- means for calculating the position of a virtual axis (see pg 6, col 1, para 0056, lines 15-29) which is assumed to be moving at a speed settled depending on a given function; (see pg 3, col 1, para 0034, lines 1-5)
- means for storing the calculated position of the controlled axis in association of the calculated position of the virtual axis; (see pg 2, col 2, para 0032. lines 13-16 and pg 3, col 1, para 0038, lines 3-6) and

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- means for driving the controlled axis (see Figure 2, element 42-Servo Drive) in a manner such that the controlled axis synchronously follows the virtual axis as a master axis in accordance with the position stored in said means for calculating the position of the controlled axis. (see pg 3, col 1, para 0035, lines 15-25)

The examiner further explains,

Weinhofer teaches,

1. monitoring a position of a motion control axis and controlling an output device responsive to the position of the motion control axis, which is related with applicants' invention; [Abstract] and also
2. latching/unlatching a cam element that controls the output device; [Abstract]

Weinhofer further teaches, "Second, it may also be noted that the compensations may be dynamically adjusted based on system conditions. For example, if an actuator begins to wear causing an increase in the time required to turn it on, then the user has the ability to dynamically change the position offset, latch delay and unlatch delay for each output device 50 either programmatically or through an online data monitor. This is advantageous because shutting down the equipment to re-adjust, change the position of the output device, or enter a new compensation delay value would require stopping and restarting the process resulting in product waste" [0107], can be treated as changing the position/motion of the axis based on a calculation from the result by monitoring the axis position.

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Regarding Claim 4,

The position control device (see pg 1, col 1, para 0004, lines 1-7) according to claim 2 or 3, wherein said means for carrying out control of the I/O signal includes exclusive control means for preventing the I/O signal stored in said means for storing the state of the I/O signal and an I/O signal (see pg 3, col 1, para 0036, lines 1-4 and col 2, para 0039, lines 6-27) using a ladder (see pg 4, col 1, para 0044, lines 6-9) from being written doubly.

Regarding Claim 5,

The position control device (see pg 1, col 1, para 0004, lines 1-7) according to claim 2 or 3, which further comprises means for selecting the I/O signal to be stored in said means for storing the state of the I/O signal. (see pg 7, col 2, para 0068, lines 1-5)

Response to Amendment**Claim Rejections - 35 USC § 102& 103**

4. Applicants' argument regarding "**Weinhofer** does not discuss or suggest storing a calculated position of the controlled axis in association with the calculated position of the virtual axis, where the virtual axis moves at a set speed" is disagreed with. **Weinhofer** teaches "monitoring a position of a motion control axis and controlling an output device responsive to the position of the motion control axis" [Abstract], combined with "the control signal may be a velocity reference signal, and the servo drive may be operative to control the speed of the motor so as to track the motor speed commanded by the velocity reference signal provided by the axis

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block. The position of the motor is monitored by the feedback device which provides feedback information to the axis block" [0034], would be clear having the same subject matter invented.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunray Chang whose telephone number is (571) 272-3682. The examiner can normally be reached on M-F 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-746-3506.



Anthony Knight
Supervisory Primary Examiner
Group Art Unit 2121
Technology Center 2100
U.S. Patent and Trademark Office

August 23, 2006